

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**MD (ANAESTHESIOLOGY) FINAL EXAMINATION**  
**AUGUST 2014**

Date : 1<sup>st</sup> August 2014

Time : 1.00 p.m. – 4.00 p.m.

**LONG ESSAY QUESTIONS**

Answer any **three** questions.

Answer each question **in a separate book.**

1. A 38 year old female weighing 100 kg is scheduled for a laparoscopic ovarian cystectomy. She is 150 cm in height.
  - 1.1. Describe the changes that may be seen preoperatively.
    - 1.1.1. in the **measurements** of her respiratory parameters. (25%)
    - 1.1.2. in the cardiovascular system. (15%)
  - 1.2. Briefly discuss the special concerns in anaesthetising this patient. (40%)
  - 1.3. During surgery SpO<sub>2</sub>, dropped to 80%, list the possible causes. (20%)
  
2. A 27 year old primigravida with a POA of 28 weeks presented with progressive dyspnoea of two weeks duration. Clinical evaluation revealed a tight mitral stenosis.
  - 2.1. Outline the pathophysiological changes of mitral stenosis that lead to dyspnoea. How does the cardiovascular changes in pregnancy aggravate this situation ? (40%)
  - 2.2. What is the immediate management of this lady ? (30%)
  - 2.3. She is scheduled for an elective caesarean section at a POA of 36 weeks. What are the anaesthetic options available ? Give reasons. (30%)

3. An 85 year old lady presents for hip hemiarthroplasty following a fracture neck of femur due to a fall at home.
  - 3.1 . What are the anaesthetic concerns of an elderly patient ? (40%)
  - 3.2. What patient factors predict the outcome following hip hemiarthroplasty ? (10%)
  - 3.3. How would you aim to achieve an improved outcome in this patient? (20%)
  - 3.4. Discuss the advantages and disadvantages of the anaesthetic options available for surgery. (30%)
  
4. A 60 year old male is scheduled for an excision of a recurrent malignant lesion in the base of the tongue. He gives a history of smoking and has had radiotherapy for the same lesion 9 months ago.
  - 4.1. Draw a labeled diagram of the direct laryngoscopic view of the larynx. (10%)
  - 4.2. Outline the changes in the respiratory system that may occur due to chronic smoking. (25%)
  - 4.3. How would you assess the airway in this patient at the bedside. (25%)
  - 4.4. Give advantages and disadvantages of the methods available to secure his airway for the surgery. (40%)

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Date : 4<sup>th</sup> August 2014

Time : 1.00 p.m. – 4.00 p.m.

**Short Answer Questions**

Candidates are required to answer all twelve questions.

Candidates who fail to attempt anyone question will not pass the examination.

All questions carry equal marks.

Answer each part in a separate book marked A and B.

**PART A**

1.
  - 1.1. What are the indications for antiplatelet drugs in clinical practice ? (20%)
  - 1.2. List the agents currently in clinical use and their underlying mechanism of action. (50%)
  - 1.3. A patient who had a drug eluting stent (DES) placed in the proximal LAD coronary artery 05 months ago, and is on aspirin and clopidogrel, is to undergo surgery.  
  
Outline your pharmacological management of the antiplatelet agents during the perioperative period if the surgery is of,
    - 1.3.1 low bleeding risk (30%)
    - 1.3.2 high bleeding risk

2.
  - 2.1. Define chronic post surgical pain (CPSP). (20%)
  - 2.2. What are the risk factors for CPSP ? (40%)
  - 2.3. Outline how you could prevent or minimise post surgical pain. (40%)
  
3.
  - 3.1. What are the indications for a femoral nerve block ? (20%)
  - 3.2. List the equipment you would require and describe how you would perform an ultra sound guided femoral nerve block ? (70%)
  - 3.3. What are the advantages of an ultra sound guided nerve block ? (10%)
  
4. A 70 year old patient was subjected to Total hip replacement surgery. Following prosthesis insertion using bone cement the patient desaturated to SaO<sub>2</sub> 85% and became hypotensive, systolic blood pressure 80 mmHg.
  - 4.1. What are the risk factors of bone cement implantation syndrome ? (20%)
  - 4.2. What measures would have been helpful to minimize the severity of the above phenomena ? 40%)
  - 4.3. How do you manage bone cement implantation syndrome ? (40%)
  
5.
  - 5.1. What features from history and examination would make you suspicious of a spinal cord injury to the cervical area in a patient admitted to the emergency treatment unit ? (40%)
  - 5.2. Give three (03) investigations that would confirm the diagnosis. (20%)
  - 5.3. What measures would you take for the protection of the spinal cord from further injury. (40%)

- 6.
- 6.1. List the subdivisions of acute hepatic failure. (15%)
  - 6.2. What clinical features can develop following an untreated paracetamol overdose ? (35%)
  - 6.3. Classify hepatic encephalopathy. (20%)
  - 6.4. Outline the probable pathophysiological process causing hepatic encephalopathy. (30%)

### PART B

- 7.
- 7.1. What are the possible causes for Hb to be 6g% in a patient who is coming for routine minor surgery ? (40%)
  - 7.2. Outline the investigations to identify the exact cause of anaemia. (40%)
  - 7.3. List the reasons for critical illness anaemia and what is the blood transfusion trigger for this condition ? (20%)
- 8.
- 8.1. What information can be derived by the terms **sensitivity** and **specificity** when evaluating a clinical test ? (30%)
  - 8.2. What are the advantages and disadvantages of a **retrospective** clinical trial when compared to a prospective clinical trial ? (40%)
  - 8.3. Briefly explain the methods adopted to avoid bias in clinical trials. (30%)
- 9.
- 9.1. List the factors that may increase the intra ocular pressure during eye surgery. (30%)
  - 9.2. What are the perioperative anaesthetic considerations in a patient for vitreoretinal surgery under general anaesthesia. (70%)

10. A 47 year old patient with stage 5 chronic kidney disease is suffering severe menorrhagia due to multiple fibroids. She is being considered for a total abdominal hysterectomy.
- 10.1. List the abnormalities that you may expect to find.
- 10.1.1. on examination of this patient ? (20%)
- 10.1.2. In her investigations ? (30%)
- 10.2. What are your main concerns in the perioperative management of this patient ? (50%)
11. A 72 year old man was scheduled for transurethral resection of bladder tumour (TURBT).
- 11.1. On what criteria would you decide that he could be managed as a day case patient ? (40%)
- 11.2. What facilities should be available in this treatment centre to manage this Patient ? (30%)
- 11.3. How would you decide this patient is fit for discharge after surgery ? (30%)
12. A 46 year old female is admitted to the accident and emergency with a temperature of 39°C. She is acutely ill and gives a history of dysuria.
- L2.1. What are the other diagnostic criteria you need to diagnose sepsis and septic shock ? (60%)
- 12.2. If you diagnose sepsis what is your management of this patient in the first 6 hours ? (40%)